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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,404	11/16/2000	Timothy J. Wright	207312	5041

23460 7590 12/30/2003

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EXAMINER

IQBAL, KHAWAR

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 12/30/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/714,404

Applicant(s)

WRIGHT, TIMOTHY J.

Examiner

Khawar Iqbal

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3,8,12 and 13 rejected under 35 U.S.C. 102(e) as being unpatentable by Park (6408175).

3. Regarding claim 1 Park teaches a method of allowing a home operator authenticate mobile user equipment in a serving mobile telecommunications network comprising the steps of (abstract, fig. 3):

passing an authentication element forming at least part of an authentication vector, from the serving network to mobile user equipment (col.3, lines 50-58, col. 4, lines 28-40),

deciding in the user equipment based at least in part on the value of a predetermined field contained in the authentication element, when to generate a termination message (col.3, line 59-col. 4, line 9, col. 5, line15-col. 6, line 47), and

passing the termination message from the mobile user equipment to the serving network which message contains a value indicating that the serving network must obtain a further authentication vector from the home operator before allowing the user equipment to make further calls (col.4 lines 10-20 and 28-60, col. 6, lines 5-47).

Regarding claim 2 Park teaches wherein the termination message is a predetermined key set identity value (col.5, lines 29-50).

Regarding claim 3 Park teaches wherein the predetermined field is an authentication management field (col. 5, lines 29-50).

Regarding claim 8 Park teaches A method of allowing a home operator authenticating mobile user equipment in a serving mobile telecommunications network comprising the steps of (abstract, fig. 3):

requesting service from the serving network to which the user equipment is not directly subscribed (col.3, lines 50-58),

passing the request for service from the serving network to a home operator network to which the user equipment is directly subscribed (col. 4, lines 1-9, col. 4, line 61-col. 4, line 20, fig. 3),

generating an authentication vector in the home operator network which includes an authentication management field (col.5, lines 15-40),

passing the authentication management field, contained in an authentication vector from the home operator network to the serving network (col. 4, lines 1-9, col. 4, line 61-col. 4, line 20, fig. 3),

passing an authentication element forming at least part of the authentication vector from the serving network to the user equipment (col. 3, lines 50-58, col. 4, lines 28-40, col. 6, lines 32-47),

extracting in the user equipment the authentication management field from the authentication element (col.4, lines 21-28),

generating in response at least to a predetermined value of the authentication management field, a predetermined key set identifier, and passing the key set identifier to the serving network (col.4, lines 29-53, col.), lines 15-67).

Regarding claim 13 Park teaches mobile user equipment for use in a mobile telecommunications network and having subscription with a home operator, equipment including (abstract, fig. 3):

means for receiving from a serving network (abstract), an authentication element forming at least part of an authentication vector (col. 3, lines 50-58, col. 4, lines 28-40), decision means for deciding in the user equipment based at least in part on the value of a predetermined field contained in the authentication element (col. 3, line 59-col. 4, line 9), when to generate a termination message, and means for passing the termination message from the mobile user equipment to the serving network which message contains a value indicating that the serving network must obtain a further authentication vector from the home operator before allowing the user equipment to make further calls (col. 4 lines 10-20 and 28-60, col. 6, lines 5-47).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6,9-12,14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (6408175) and further in view of Harris et al (6442406).

Regarding claims 4-6,9-12,14-16 Park does not specifically teach total call duration, time elapsed, and total number of calls made. Park teaches a random number (RAND) and an authentication (AUTHRs) are transmitted from a network to a mobile station (10), to generate a random number (RANDBS) and an authentication. An authentication (AUTHBSs) is generated in the network based on the random number from the mobile station and transmitted to the mobile station, if the two authentications are equivalent. A mutual authentication is completed for transmitting necessary parameters to mobile station, if the successive authentications are equivalent.

In an analogous art, Harris et al teaches total call duration, time elapsed, and total number of calls made (abstract, col. 2, lines 7-25, and 44-65). The identifiers of telephone numbers that is exempt from the limit value and a reset interval after which the limit value is automatically reset. The telephone is allowed to transmit calls as long as the limit value is not exceeded, and until the reset interval has elapsed, if the call corresponds to the stored telephone number. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Park by specifically adding features of total call duration, time elapsed, and total number of calls made purpose of the limits include limits on total airtime and airtime per call for a specified interval as taught by Harris et al.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (6408175) and further in view of Blanke et al (20010046850).

Regarding claim 7 Park does not specifically teach SIM. Park teaches Particularly, the AUTHR is obtained by performing an authentication algorithm utilizing the secret key A_KEY, the random number RAND and the MIN stored in the MS 10.

In an analogous art, Blanke et al teaches SIM (abstract, paragraph # 0047). The mobile handset using SIM carries out a call step to a special service number before the authentication step providing a high level of confidence that the base station is receiving the correct handset call. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Park by specifically adding features of SIM purpose of data can advantageously be stored on the smart card (SIM card) of the mobile terminal or on a special card dedicated to setting up the link with the communication system as taught by Harris et al.

Response to Arguments

4. Applicant's arguments filed 11-08-03 have been fully considered but they are not persuasive. The examiner has thoroughly reviewed applicant's arguments claims 1, but firmly believes the cited references to reasonable and properly meets the claimed 1,8, and 13 limitations. Applicant's primary argument was that the references do not teach the serving network must obtain a further authentication vector from the home operator before allowing the user equipment to make further calls. In regard to applicant's arguments against Park, Harris and Blanke et al, the examiner considers Park to merely teach a mobile communication system and more particularly to a method of managing mobile station operational parameters in the mobile communication system. In the

present invention, the mobile station operational parameters are managed such that a mutual authentication between a mobile station and a network can be performed while maintaining the same number of operational parameter updating. The present method allows a mutual authentication while maintaining the updating procedure of the mobile station operational parameters in the conventional procedure (abstract). Receiving the authentication signature AUTH_OTAPA from the OTAF 40, the MS 10 compares the received authentication signature AUTH_OTAPA with the internally generated authentication signature AUTH_OTAPA. If the two authentication signatures AUTH_OTAPA are equivalent, the MS 10 recognizes that the mutual authentication between the MS 10 and the network is successfully performed. Accordingly, the MS 10 transmits to the OTAF 40 a message allowing the parameter update procedure as shown in 13. Thereafter, the OTAF 40 transmits to the MS 10 the necessary parameters as shown in m3 to o3, and if appropriate also transmits an instruction message to store the parameters, shown in q3. Upon receiving the storage instructions from the OTAF 40, the MS 10 updates or changes the old parameters with the newly received parameters and transmits to the OTAF 40 a message indicating a successful parameter update, shown in r3 and s3. Finally, the OTAF 40 transmits to the MS 10 a message indicating a completion of the entire authentication procedure, shown in t3 to v3 (col. 6, lines 30-45). The network receives the authentication signature AUTHRm from the mobile station MS through the Unique Challenge Response and compares the authentication signature AUTHRm with the internally generated authentication signature AUTHRs. If the two authentication signature AUTHRs and AUTHRm are equivalent, the

authentication of the mobile station MS is successfully performed (col. 7, lines 21-26).

The mobile station operational parameters in a wireless communication network, comparing at a network a first mobile authentication signature generated by a mobile station with a first network authentication signature generated by the network, comparing at the mobile station a second network authentication signature generated by the network with a second mobile authentication signature generated by the mobile station; determining mutual authentication of the mobile station and the network in accordance with an outcome of the comparison at the network and the comparison at the mobile station (col. 2, lines 15-50, also see claim 1).

Additionally, the examiner has given the claim language its broadest reasonable interpretation. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Anticipatory reference need not duplicate, word for word, what is in claims; anticipation can occur when claimed limitation is "inherent" or otherwise implicit in

relevant reference (Standard Havens products Incorporated v. Gencor Industries Incorporated, 21 USPQ2d 1321).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Art Unit: 2686

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

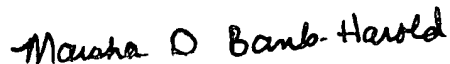
or faxed to:

(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal



MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
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